48. A much more convenient and effectual arrangement for chemical decompositions by common electricity is the following. Upon a glass plate, fig. 4, placed over, but raised above a piece of white paper, so that shadows may not interfere, put two pieces of tinfoil *a, b ;* connect one of these by an insulated

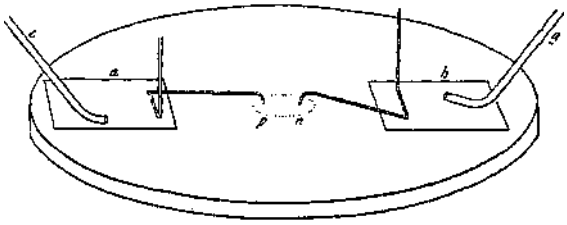
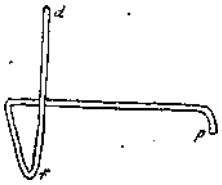


Fig. 4.



wire *c,* or wire and string (37), with the machine,, and the other *g>* with the discharging train (28) or the negative conductor; provide two pieces of fine platina wire., bent as in fig. 5,'so that the part *d, f* shall be nearly upright, whilst the whole is resting on the three bearing points *p, c, f;* place these as in fig. 4; the points *p, n* then become the decomposing poles. In this way surfaces of contact, as minute as possible, can be obtained at pleasure, and the connection can be broken or renewed in a moment, and the substances acted upon examined with the utmost facility.

49. A coarse line was made on the glass with solution of sulphate of copper, and the terminations *p* and *n put* into it; the foil *a* was connected with the positive conductor of the machine by wire and wet string, so that no sparks g*5 passed: twenty turns of the machine caused the precipitation of so much copper on the end *n,* that it looked like copper wire; no apparent change took place at *p.*

50. A mixture of equal parts of muriatic acid and water was rendered deep blue by sulphate of indigo, and a large drop put on the glass, fig. 4, so that *p* and *n* were immersed at opposite sides: a single turn of the machine showed bleaching effects round *p,* from evolved chlorine. After twenty revolutions no effect of the kind was visible at *n,* but so much chlorine